

2002 –2012 Occupational Projections

Occupational Title	Minimum Education Requirements	** Total Annual Openings	1 <sup>st</sup> Qtr. 2005
			Hourly Wage Range
Weighers, Measurers, Checkers, and Samplers, Recordkeeping	Short-term Tng. & Exp.	20	\$ 8.31 - 15.37
Surveying and Mapping Technicians	Mod.-term Tng. & Exp.	90	\$ 10.68 - 17.54
Petroleum Pump System Operators, Refinery Operators, and Gaugers	Long-term Tng. & Exp.	160	\$ 19.95 - 27.62
Chemical Plant and System Operators	Long-term Tng. & Exp.	170	23.31 - 27.52
Mechanical Drafters	Postsecondary voc.	50	\$ 15.83 - 27.80
Environmental Science and Protection Technicians, Including Health	Associate degree	30	\$ 12.65 - 20.33
Civil Engineering Technicians	Associate degree	50	13.28 - 21.59
Mechanical Engineering Technicians	Associate degree	30	16.63 - 24.22
Chemical Technicians	Associate degree	60	18.82 - 27.39
Materials Engineers	Bachelor's degree	20	\$ 13.46 - 39.21
Environmental Scientists and Specialists, Including Health	Bachelor's degree	50	17.24 - 29.96
Industrial Engineers	Bachelor's degree	40	18.69 - 35.88
Marine Engineers and Naval Architects	Bachelor's degree	20	20.93 - 40.83
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Bachelor's degree	40	21.36 - 36.01
Chemists	Bachelor's degree	50	22.73 - 34.58
Civil Engineers	Bachelor's degree	80	26.60 - 40.79
Mechanical Engineers	Bachelor's degree	100	27.16 - 43.54
Electrical Engineers	Bachelor's degree	30	28.36 - 43.47
Geoscientists, Except Hydrologists and Geographers	Bachelor's degree	30	30.02 - 51.83
Chemical Engineers	Bachelor's degree	40	32.17 - 48.73
Petroleum Engineers	Bachelor's degree	40	33.03 - 53.11
Engineering Managers	Wk Exp.+ Bachelor's or higher degree	70	\$ 34.16 - 54.22

\*\*Total Annual Openings = New job growth plus replacement needs due to turnover.

The total cost of printing this document, including reprints, is \$.09 per copy. This document was published by the Louisiana Department of Labor, Office of Occupational Information Services, Research & Statistics Division, P. O. Box 94094, Baton Rouge, Louisiana 70804-9094. Its purpose is to disseminate information pertaining to labor market developments and employment trends under the authority of Part 602.6, Title 20, Chapter V of the Code of Federal Regulations. It was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 43:31.

Occupations in the Spotlight



Chemical Plant and System Operators



Control or operate an entire chemical process or system of machines.

- ◆ Knowledge of raw materials, production processes, quality control, costs, and other

techniques for maximizing the effective manufacture and distribution of goods

- ◆ Knowledge of chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo
- ◆ Knowledge of the practical application of engineering science and technology

Required WorkKeys® Scores:

AM LI RI  
Not Yet Available

Surveying and Mapping Technicians



Perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes.

- ◆ Knowledge of the practical application of engineering, science, and technology
- ◆ Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models
- ◆ Knowledge of computer hardware and software

Required WorkKeys® Scores:

AM LI RI  
Not Yet Available

AM = Applied Mathematics  
LI = Locating Information  
RI = Reading for Information

**WorkKeys® assessments** give students and workers reliable, relevant information about workplace skill levels. Combined with information about skill levels required for jobs, assessments information can help students make better career and educational decisions. Louisiana uses three WorkKeys® assessments as the foundation for awarding career readiness certificates. For more information, contact the Workforce Education and Training Office at the Louisiana Board of Regents (225-342-4253).

LOUISIANA  
Opportunities in



*A career in science, technology, engineering or mathematics is exciting, challenging, and ever-changing. Learners who pursue one of these career fields will be involved in planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, research and development services.*

FASTEST GROWING JOBS

- 👤 Environmental Science and Protection Technicians, Including Health
- 👤 Environmental Scientists and Specialists, Including Health
- 👤 Mechanical Engineering Technicians
- 👤 Civil Engineering Technicians
- 👤 Materials Engineers

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"This document was produced as a collaborative endeavor between the Louisiana Departments of Labor, Education and the Board of Regents".

*An Equal Opportunity Employer  
Auxiliary Aids and Services are available upon request to individuals with disabilities*

## Reference Center:

Louisiana Department of Labor -  
<http://www.LAWWORKS.net>

Occupational Information – go to Career Services  
<http://lavos.laworks.net>

Louisiana Employment Outlook -  
[http://www.laworks.net/qm\\_employmentprojections.asp](http://www.laworks.net/qm_employmentprojections.asp)

Louisiana Technical Colleges -  
<http://www.ltc.edu/home.htm>

Financial Aid  
<http://www.osfa.state.la.us/>

Louisiana Board of Regents-  
<http://www.regents.state.la.us>

Louisiana Community & Technical College System  
<http://www.lctcs.net/>

ACT  
<http://www.act.org>

National Career Clusters  
<http://www.careerclusters.org>



*This brochure is designed to provide assistance to students as they prepare to make decisions about course selection, their career options and future plans.*

**The Career Options Law (Act 1124)** mandates that all high school students have a five-year educational plan and that all high schools offer career majors/areas of concentrations. It is the intent of the law that students have a focus while in school to help make learning more relevant and meaningful.

Students in 6<sup>th</sup> – 8<sup>th</sup> grades must complete at least six career awareness activities which help students to develop a five-year educational plan. It also requires school systems to offer areas of concentrations to address students' interests.

### The Five-Year Educational Plan

Students must complete this plan at the end of their 8<sup>th</sup> grade year with input from their counselor and/or advisor and family. This plan must be reviewed and revised on an annual basis throughout high school with student, parent and counselor/advisor signatures each year.

## Science, Technology Engineering and Math Cluster High School Areas of Concentrations (2006 – 2007)

**Diploma Endorsements** will help provide for students the preparation necessary for college and/or a career. By the same token employers will be getting better prepared workers, and higher education institutions will have students better prepared for success in their post secondary institutions. These endorsements help students to maximize their 11<sup>th</sup> and 12<sup>th</sup> grades, encourage more students to take Advanced Placement courses, encourage students to take advantage of career and technical education courses and opportunities, as well as hold high schools accountable for what is taught during the 11<sup>th</sup> and 12<sup>th</sup> grades. Students can complete the necessary requirements for two different diploma endorsements:

- Academic Endorsement
- Career and Technical Endorsement

Please see your guidance counselor for further details.

**The Louisiana WORKReady! Certificate** is a portable credential that signifies to an employer that an individual has achieved acceptable levels in the foundation skills necessary for success in the workplace and gives Louisiana citizens a “key to work”. Issued by the Workforce Commission, the Certificate is a tool that helps employers identify qualified candidates to fill the openings they have in their businesses.

People who attain the Certificate, which will display their workplace readiness skill levels, will have an advantage as they pursue their career goals. The Certificate increases the likelihood that business will receive a well-trained, highly skilled worker and that education will prepare students for available jobs. For more information, contact the Workforce Commission at 225-342-2094 or the Board of Regents at 225-342-4253.

### Career Cluster

Science, Technology, Engineering and Mathematics

### Areas of Concentrations

Drafting  
Engineering

### Post Secondary Programs

Architectural Engineering  
Drafting and Design  
Interior Design  
Landscape Architect  
Engineering  
Civil Engineering  
Computer Engineering  
Electronics & Electrical Engineering  
Health Care Administration  
Public Health

### Training Programs Related

#### Certification(s):

Certified Electronic Technician

For more information on course selection  
visit our web site:

<http://www.doe.state.la.us/ldc/curriculum/home.html>

## TOP EMPLOYING INDUSTRIES

Industry (based on North American Classification System NAICS)	2002	2012	Number of New Jobs	Percent Change
Petroleum & Coal Products Mfg.	10,572	10,240	-332	-3.1%
Basic Chemical Manufacturing	13,730	13,640	-90	-0.7%
Resin, Synthetic Rubber, & Artificial Synthetic Fibers & Filaments Mfg.	5,914	6,100	186	3.1%